Maryland Heat Emergency Plan
2012 Version 1.1

Maryland Department of Health and Mental Hygiene

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Record of Changes

Date	Description	Draft Number
May 2011	Initial Draft	Draft 1
May 2011	Revised Draft	Draft 2
May 2011	First approved Plan	Version 1.0
July 2011	Revised Plan (Corrected minor errors)	Version 1.1
August 2011	Revised Plan Based on LHD Input and AAR	Version 1.2
May 2011	Updated draft plan with input from kick-off meeting	2012 Draft 1
May 2011	Updated draft with LHD input	2012 Draft 2
May 2012	2012 Version 1.0 Approved	2012 Version 1.0
June 2012	Revised Definitions, added recommendations	2012 Version 1.1

Summary

Purpose

The Maryland State Heat Emergency Plan, developed by the Maryland Department of Health and Mental Hygiene (DHMH), guides DHMH's actions during an extreme heat event, as defined below. This plan also provides guidance for Local Health Departments (LHDs) to support them as they fulfill their roles, however it does not mandate that LHDs perform the suggested actions described.

Definitions

Complex Heat Emergency – A Complex Heat Emergency is a condition of an Extreme Heat Event with complications requiring additional response. Examples of such complications are water or power shortages or an extended heat wave.

Cooling Centers – The actual definition of a 'cooling center' may vary from county to county. For the purposes of this plan, a cooling center refers a public building with air conditioning and water. Cooling Center Plans may identify general locations such as public libraries or malls where the LHD recommends going to escape the heat, or designating locations such as community centers with extended hours and bottled water.

Extreme Heat Event – An Extreme Heat Event is a weather condition with excessive heat and/or humidity that has the potential to cause heat-related illnesses. An Extreme Heat Event is defined as a day or series of days when:

- The heat index is forecasted to be approximately 105 degrees or higher, or;
- The National Weather Service has issued a Heat Advisory, or;
- Weather or environmental conditions are such that a high incidence of heat-related illnesses can reasonably be expected.

Heat Index – The Heat Index is a measure of what the temperature actually feels like. The heat index is a combination of both the actual temperature and humidity, and is the best indicator for a pending Extreme Heat Event. The Heat Index is the key indicator of an Extreme Heat Event by the National Weather Service.[1]

Heat-related Illness – A Heat-related Illness is a condition caused by extreme heat, usually dehydration, heat exhaustion, heat stroke or a medical condition exacerbated by heat events.

> *Heat Cramps* - Painful muscle spasms in the abdomen, arms, or legs following strenuous activity. The skin is usually moist and cool and the pulse is normal or slightly raised. Body temperature is mostly normal. Heat

[1] http://www.weather.gov/om/heat/index.shtml

cramps often are caused by a lack of salt in the body.

Heat exhaustion - a condition characterized by faintness, rapid pulse, nausea, profuse sweating, cool skin, and collapse, caused by prolonged exposure to heat accompanied by loss of adequate fluid and salt from the body.

Heat Stroke - A severe condition caused by impairment of the body's temperature-regulating abilities, resulting from prolonged exposure to excessive heat and characterized by cessation of sweating, severe headache, high fever, hot dry skin, and in serious cases collapse and coma.

High-Risk Groups – High-Risk Groups are populations that are disproportionately affected by Extreme Heat Events. These groups include children and youth athletes, individuals who may be socially isolated (such as the elderly or those with psychiatric illness) and individuals with medical risk factors, such as alcoholism, cardiovascular or pulmonary disease, hypertension, diabetes or tobacco use.

Phase 1: Pre-Summer

Pre-summer activity occurs in the spring before temperatures begin to rise. Based on temperature data collected at the Baltimore-Washington International Thurgood Marshall Airport (BWI) and ESSENCE data on Heat-related Illnesses, temperatures in Maryland can begin to spike around early May, although Extreme Heat Events don't usually begin until early June. However, it is important to begin preparing for these events early to ensure all partners are ready to activate during the first Extreme Heat Event.

Triggers

- Pre-summer activities begin in April.

Surveillance

- The National Weather Service (NWS) determines the heat impact in the forecast. The Maryland Emergency Management Agency (MEMA) monitors data from the Sterling, Pittsburgh, Mt. Holly and Wakefield NWS stations.
- DHMH conducts daily analysis of syndromic surveillance data from hospital emergency departments for indications of an increase in heat-related illness.

State Actions

- Conduct an annual review of the Maryland Heat Emergency Plan and revise and update as necessary. Plan revisions may include but not be limited to:
    - Coordinate and conduct a conference call with State Partners to review and update planning efforts.

    - Obtain updated cooling center contact information where applicable.
- Provide guidance and recommend best practices to aid jurisdictions in revising local Heat Emergency Plans as requested.
- Update the DHMH website and social media outlets to include accurate local cooling center contact information.
- Distribute the revised Heat Emergency Plan to Local Health Departments and partners by the third week of May.

Suggested Local Actions

- Consider conducting an annual review of the jurisdiction's plan:
    - Revise and update local surveillance and communications plans.
        - Prepare generic press releases and local website pages.
    - Review and revise information pertaining to vulnerable populations.
    - Review and revise existing cooling center plans.
    - Review and revise available transportation programs for providing transportation assistance to cooling centers.
- Provide DHMH with information on cooling centers and other resources
- Identify and renew expectations of local partners regarding operations activities and actions during an Extreme Heat Event.
- Identify a mechanism for cancelling large public outdoor events and coordinate with organizations that hold large outdoor events.
- Engage school systems to encourage students in 'Heat Preparedness Activities' such as poster contests

Public Information (Both State and Local)

- Revise written and electronic public information materials:
    - Reach out proactively to media outlets to initiate early messaging for public awareness.
    - Messaging should also be clear and targeted to High-Risk Populations and contain a list of available options, such as call-in numbers for the location of cooling centers.
- Jurisdictions should consider establishing communications partnerships and distribute basic information to our ESF-8 partners and stakeholders including pharmacists, physicians, mail carriers, police, EMS and firefighters. Physicians and pharmacists will be targeted in state efforts.
- Agencies should consider reviewing and conducting employee programs to educate their staff on:
    - Their respective agency Extreme Heat Emergency Plans.
    - Modified work rest schedules especially for those employees working in hot environments.
    - Recognition of heat-related illness.
    - Immediate interventions once a heat-related illness is recognized.
    - Preventive steps against the development of heat related illnesses.

- This is especially important for those state agencies with staff routinely working out of doors.

Phase 2: Launch of Extreme Heat Season

Maryland should be prepared to launch Extreme Heat Event activities by June 1st. The Launch of the Extreme Heat Season is for the purposes of the initial public messaging to the public on heat-related illness.

Triggers

- DHMH and Jurisdictions should consider holding press conferences on or just prior to the day of the first Extreme Heat Event, or;
- DHMH and Jurisdictions should hold a press conference by the third week in June if no Extreme Heat Events have occurred.

Surveillance

- State and local agencies should monitor weather forecasts for the possibility of predicted weather conditions consistent with extreme heat.
- DHMH will distribute weekly reports and analysis of the public health impact of heat related illnesses. These reports will include but may not be limited to:
  - Temperature Data via the National Weather Service and MEMA
  - Emergency Department visits for Heat-Related Illness through DHMH's syndromic surveillance system.
  - Number of heat-related deaths reported by the Office of the Chief Medical Examiner (OCME).
  - Emergency Responses for heat-related illness as reported by the Maryland Institute for Emergency Medical Services Systems (MIEMSS) Statewide Electronic EMS Data System. (Functional by the end of 2011)
  - Heat Advisory Reference Information.

State Actions

- DHMH and Jurisdictions should consider holding press conferences on or just prior to the day of the first Extreme Heat Event or by the third week in June if no Extreme Heat Events have occurred.
- Coordinate with partner organizations to provide information on activities and programs via the media.
- DHMH and Jurisdictions should make revised public education materials available to outside organizations, the media and the general public.
  - Public Education Materials include a standard Heat Emergency Brochure, Heat-Related Illness Fact Sheets and Heat Emergency Recommendations for Schools, Child Care Centers, Sports and Youth Programs, Parks and Recreational

Programs, Day Camps, Sleepover Camps, Employers with outside workers (Including work-rest cycles).

- DHMH Office of Healthcare Quality will contact nursing homes to promote summer preparedness, reminding them to check their generators and air conditioning systems as well as to remind them to report real or potential concerns and issues
- Update DHMH website with LHD and cooling center phone numbers and information.

Suggested Local Actions

- Jurisdictions should consider using their 911 and Emergency Medical Dispatch systems to track the number of heat-related illness emergency calls.
- Consider designating an agency or office to monitor weather forecasts for temperature and humidity. A single reliable forecasting source that can provide accurate data one to five days in advance should be selected.
- Jurisdictions should consider developing criteria for a list of individuals vulnerable to heat related health issues. Consider establishing a voluntary local list that can be used in mobilizing community leaders to check on vulnerable individuals in Phase 4. This list may consist of individual already identified by agencies that conduct outreach, such as departments of aging.
- Begin pushing Pet Emergency Preparedness for heat-related illness prevention. Resources can be found at Ready.gov[2] or other pet preparedness websites.
- Coordinate with existing volunteers and partners for responding to EHE – It may include LHD, Local Emergency Management, Red Cross, etc). Coordinate with and include additional groups as possible.

Phase 3: Extreme Heat Events

Triggers

- Predicted or actual weather conditions meet the criteria for an Extreme Heat Event as defined above and in Appendix A: Definitions.

State Actions

- Notification and Communications
    - DHMH will issue a Heat Advisory, preferably by 6:00 am for the state or jurisdiction expected to be impacted by an Extreme Heat Event.
        - Advisory will be sent to local health officers, emergency managers, etc.
    - The DHMH advisory will also be sent to other state agencies.
    - DHMH may chose to make the advisory public through release to media outlets, posting on select state agency websites and other means deemed appropriate including social media.

[2] http://www.ready.gov/america/getakit/pets.html

    - DHMH will communicate and provide outreach to Maryland's Emergency Support Function 8: Public Health and Medical partners through Maryland's HC Standard / Facilities Resource Database programs. Communications may include:
        - Advisories and Alerts
        - Situation Reports and Updates
        - Requests for resource inventory and needs
        - Monitoring of health care and medical operational status and operations
- DHMH will continue to monitor syndromic surveillance systems and issue the weekly report outlined in Phase 2.
- DHMH will coordinate with MEMA to attempt to alleviate the impact of power outages on high risk populations, such as nursing homes.
- DHMH will coordinate with MIEMSS to issue FRED alerts when appropriate.
- DHMH will review and revise this plan following any Extreme Heat Events or as requested by senior officials.

Suggested Local Actions

- Monitor surveillance of problems and gauge the potential impact of the anticipated event.
- Notify local Extreme Heat Event Partners.
- Provide DHMH with updated information on local cooling centers.
- Jurisdictions should consider activating their cooling center plans.
- Jurisdictions should consider activating transportation assistance programs.
- Consider suspending water utility shut-offs for occupied buildings.
- Consider recommending canceling, rescheduling or heightened mitigation protections for outdoor public events.
- Consider extending the hours of operation at community centers with air conditioning.
- Jurisdictions should consider arranging for extra staffing and emergency support services.
- Coordinate with relevant organizations to provide water to homeless populations and at designated locations (such as cooling centers).
- Consider coordinating responses with public access numbers.
- Jurisdictions should consider recommending the cancellation of large outdoor gatherings or provide information on mitigating the threat (such as fans, moving to air conditioning and supplying bottled water).
- Recommend including heat advisory warnings with all summer event permits.
- Recommend employers of outdoor workers schedule shifts to the morning and evening, avoiding peak heat hours.
- Jurisdictions should provide all call centers (911, 211, hospital and private 'Ask a Nurse' lines) information on cooling centers and transportation options.
- Recommend employing consistent messaging that urges individuals to check on elderly neighbors and family members.
    - If possible, recommend the usage of reverse-911 systems by local jurisdictions to contact at-risk and vulnerable populations and provide heat advisory warnings.
- Send DHMH Information on Public Gatherings or events of note.

Public Information

- DHMH will coordinate with each jurisdiction on Extreme Heat Event communications.
    - DHMH will support jurisdictions that wish to take the lead on communications activities.
    - DHMH will send its heat advisory to local media outlets by 6 am each day for jurisdictions that do not wish to take the lead on communications.
- Jurisdictions taking the lead on communication should notify local press by 6 am each day.
- Both the State and jurisdictions should update social media and departmental websites to reflect heat advisory and provide health warnings and recommendations.
- Coordinate public health broadcasts of information about the anticipated timing of the event.
    - Include information about the severity and duration of EHE conditions and recommendations to go to seek a cool place or a designated cooling center and to increase fluids.
- Utilize existing digital signage (such as outside firehouses or other public buildings) to display concise heat safety tips.
- DHMH will make available (upon request) for distribution targeted public information/education materials for:
    - Physicians,
    - Pharmacists,
    - Federally Qualified Health Centers (FQHCs),
    - Community Groups,
    - Religious Organizations,
    - Supermarkets.

Phase 4: Complex Heat Emergency

A Complex Heat Emergency is a condition of an Extreme Heat Event with complications requiring additional response. Examples of such complications are water or power shortages or an extended heat wave. Complex Heat Emergencies may be local, regional or statewide

Triggers

- State and local authorities will use discretion in deciding what conditions constitute a complex heat emergency, which may include:
    - Significant power or water outages, or;
    - Extended heat waves, or;
    - Excessively high temperatures with a Heat Index of 110, or;
    - Any other factors that would exacerbate a Heat Emergency.

State Actions

- Conduct conference calls to discuss potential impact of event.
- Begin issuing the Heat-Related Illness Surveillance Report on a daily basis.

- Coordinate with MEMA to activate multi-jurisdictional response.
    - DHMH will consider extraordinary steps in managing the emergency.
- Consider activating emergency plans to scale response.
- Consider coordinating with local jurisdictions to supplement response.

Suggested Local Actions

- Notify DHMH and MEMA if there is a possible major event.
- Consider opening additional cooling centers.
- Consider contracting for misting tents, or have local Department of Parks and Recreation set up sprinklers in consultation with local Department of Public Works.
- Consider revoking permits for mass gatherings or other events that would put the population at undue risk.
- Consider providing ice and/or dry ice to areas without power.
- Consider distributing fans to vulnerable populations without air conditioning, if resources are available.
- Consider mobilizing neighborhood leaders to check on and assist vulnerable individuals in targeted locations.
- Consider coordinating with Emergency Management to activate CERT teams to check on neighbors and/or pass out supplies.
- Consider actively seeking out the homeless population and ensure they have a cool place to stay.
- Consider opening a temporary emergency center for areas that may be without water or power for an extended period of time.
- Consider coordinating with local emergency management officials and power companies to minimize impact on nursing facilities and assisted living providers.
- Consider public transportation as a cooling method for vulnerable groups or to transport them to a cooling center.

Water Shortages

- In the event of a widespread and/or prolonged water shortage, the Jurisdiction's Health Department and the Department of Public Works should consider providing alternative potable water to affected residents. Resources can also be requested through local EMA.
- Consider requesting assistance from the private sector in providing and distributing free water.

Phase 5: Post Summer

The post summer activities typically begin in mid-September and include After Action Reporting and planning for the next operational period.

Triggers

- Post-summer activities begin in September.

State Actions

- DHMH ceases circulating weekly heat reports in September.
- Where applicable, collect After Action Reports from the jurisdictions and determine best practices to be included in the following year's planning efforts.
- Collect, analyze and release statewide surveillance data from the summer for use in future heat planning.
- Review and update State Heat Plan, including a comprehensive review of local plans and resources, to be completed and posted by May 1.

Suggested Local Actions

- Cease heat-event monitoring and return cooling centers to normal hours if applicable.
- Coordinate with DHMH on an annual heat plan review.
- Identify organizations serving high-risk populations that can be utilized in following season.
- Develop or revise information on high-risk individuals.
- Create voluntary registries for individuals, families and neighbors.
- Develop or revise an accessible record on facilities and locations.
- Conduct an evaluation of interventions:
    - Review evaluation tools to monitor effectiveness
        - Cooling center usage
        - Transportation program usage, if available
        - EMS System usage